

REMARKS/ARGUMENTS

Claims 1, 14, and 17 are amended; claims 3, 6, 8, and 9 are currently canceled; claim 2 is previously canceled; claims 18 and 19 are new; claims 1, 4, 5, 7, and 10-19 are presently pending in this application upon entry of the Amendment. No new matter is introduced by way of the Amendment. Support for new claims 18 and 19 is found in at least the paragraphs [0013] and [0033] of the Substitute Specification.

Claim Rejections:

Claims 1 and 3-17 are rejected under 35 USC §103(a) as being allegedly unpatentable over US 5,759,398 to Kielbowicz in view of US 4,404,406 to Rivers. The rejection is respectfully traversed. Applicant first responds to the *Response to Arguments*.

In the *Response to Arguments* beginning on page 2 of the Office Action, the current Examiner disagrees with applicant's argument that "a) 'Kielbowicz discloses only two spaced apart walls in each cassette unit but no intermediate walls between spaced apart walls' (see Section 2.)" As to argument a), the Office Action recited (last paragraph on page 2):

Fig. 2 of Kielbowicz shows three of these intermediate walls having a space 'B' between them and each of the paired walls being separated by spacers 21, 22. As to the claim language 'two spaced apart walls', this limitation reads on flange 4 and end plate 5 (see Figs. 1 and 2). Note that the intermediate walls (i.e. the three paired walls 11, 12) are disposed between the two spaced apart walls (i.e. elements 4 and 5).

Applicant respectfully submits that this interpretation of Fig. 2 of Kielbowicz (US 5,759,398) is *inconsistent* with the specification given in Kielbowicz. Kielbowicz recites in the Brief Description of the Drawings, "Fig. 2 is a longitudinal section through the suction sieve shown in Fig. 1" while "Fig. 1 is a perspective view of a suction sieve made according to the present invention" (col. 2, lines 11-15). I.e., Fig. 2 of Kielbowicz shows the whole suction sieve and not an individual cassette unit of the suction sieve.

Furthermore, Kielbowicz clearly recites that each cassette unit is formed of two annular, perforated side wall sections 11 and 12 (Figs. 2 and 5, col. 2, lines 37 and 38); i.e.

Kielbowicz discloses only two spaced-apart walls in each cassette unit but *no* intermediate walls between the spaced-apart walls.

The Office Action's interpretation that the whole suction sieve between the flange 4 and end plate 5, as shown in Fig. 2 of Kielbowicz, is one cassette unit (see Office Action, last paragraph on page 2) is further inconsistent with the wording of claim 1 of the present application. The cassette units claimed in claim 1 of the present application "are modularly configurable for placement in a row in order to assemble the screen wall element in the desired size". The Office Action fails to show how a plurality of suction sieves as shown in Fig. 2 of Kielbowicz "are modularly configurable for placement in a row in order to assemble the screen wall element in the desired size".

Further, the fluid filter housing and assembly disclosed by Rivers (US 4,049,406) has not been shown to be capable of performing the intended use, i.e. of screening off a suction space and a suction duct connected to it in an emergency cooling system of a nuclear power plant. Section (3.) of the *Response to Arguments* (last paragraph on page 3 continued on page 4 of the Office Action) recites:

[T]he claims are directed to an apparatus and NOT to a process. The clause, which applicant uses as basis of his traverse, is a statement of intended or desired use. This clause, as well as other statements of intended use in the claims, does not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

Regarding the use of the claimed protective screen and of the modular cassette units contained in the protective screen, the Substitute Specification recites (paragraph [0003]):

In the design scenario for the emergency cooling system it is assumed that insulation debris and chunks of concrete which arise in an incident can fall down into the sump and/or be washed down into the sump by the downwardly flowing water. In order that the debris do not impair the ability of the emergency cooling system to operate special screen elements, named protective screens in the following, are provided in front of the inlet openings of the suction ducts which lead to the emergency cooling pumps. These

protective screens have the task of keeping back the debris resulting from the incident and simultaneously ensuring an adequate through-flow of water. In this connection it must be ensured that the pressure drop caused by the debris does not exceed the permissible limiting value.

Rivers does not disclose a capability of keeping back the debris resulting from the incident and simultaneously ensuring an adequate through-flow of water. Rivers merely discloses removing (filtering) undesirable impurities from a fluid stream "by passing the fluid stream through a fluid treating material, such as a porous bed adsorption media (col. 1, lines 10-13)". Rivers furthermore recites that "gases passing around the filter assemblies pass through the filtering material ... (see e.g. Abstract of Rivers)." Accordingly, this disclosure would infer to one of ordinary skill in the art that the fluid mentioned by Rivers is mainly gaseous. Moreover, Rivers does not mention that the recited "fluid" may be a liquid, such as water.

Accordingly, Rivers does not disclose that the fluid filter housing and assembly shown in Figs. 1-3 is used for or capable of keeping back the debris resulting from the incident, such as insulation debris. This kind of debris is orders of magnitude larger than the impurities removed in the porous bed adsorption media of Rivers.

Moreover, Rivers does not recite that the fluid filter housing and assembly, shown in the Figures of Rivers, is capable of simultaneously ensuring an adequate through-flow of water. The claimed protective screen, however, includes a plurality of screen pockets formed from perforated sheet metal which are capable of that function. The plurality of screen pockets formed from perforated sheet metal have proved to ensure an adequate through-flow of water. The filter assemblies disclosed in Rivers, on the other hand, contain a porous bed adsorption media as fluid treating material (col. 1, lines 11 and 12) which has inherently a much higher flow resistance than perforated sheet metal. One of ordinary skill in the art would therefore *not use* filter assemblies containing a porous bed adsorption media for keeping back larger debris resulting from an incident in a nuclear power plant because due to the much higher flow resistance compared to perforated sheet metal the surface area needed would be much too large and the resulting protective screen would become too bulky to accommodate in the sump of the

containment of a nuclear power plant. The fluid filter housing and assembly disclosed in Rivers is therefore not capable of simultaneously ensuring an adequate through-flow of water.

For the above-mentioned reasons the fluid filter housing and assembly disclosed in Rivers is not capable of screening off a suction space and a suction duct connected to it in an emergency cooling system of a nuclear power plant. Therefore, the intended use “for screening off a suction space and a suction duct connected to it in an emergency cooling system of a nuclear power plant” patently distinguishes the claimed structure over the structure disclosed in Rivers.

In section (3.) the current Examiner furthermore disagrees with applicant’s argument c), recited as (first paragraph of section 3):

c) The filter housing and assembly disclosed by Rivers is further unsuitable for use in an emergency cooling system of a nuclear power plant because the pressure drop created by the porous bed absorption would be excessive.

As to this argument, the Office Action alleged (last paragraph of section 3 on page 5):

[T]he teaching in Rivers applied by the previous examiner to amend Kielbowicz is NOT based on the ‘porous bed adsorption media’ in Rivers, but rather on the rectangular configuration of the Rivers filter. Applicant’s arguments are unpersuasive because the applicant has not shown that the references do not teach what the previous examiner has stated they teach, nor, has the applicant shown that the previous examiner’s reasoning for and manner of combining the teachings of references is improper or invalid.

Applicant’s argument above is important for establishing Rivers as “non-analogous prior art” (see MPEP § 2141.01(a)). For the reasons given above, the filter housing and assembly disclosed by Rivers is not suitable for use in an emergency cooling system of a nuclear power plant and therefore **not reasonably pertinent** to the protective screen claimed. Rivers therefore does not qualify as analogous prior art, and also teaches away from the instant claims. It is well known that prior art must be considered by an Examiner in its entirety, including portions which teach away from the claimed subject matter.

Further, the recited allegation by the Office Action is rather contradictory with the Office Action's other allegation that Rivers' filter is capable of high pressures, as noted on page 4 of the Office Action. It is well known that a *prima facie* obviousness rejection under *KSR* must present a clear articulation of the reason(s) why the claimed invention would have been obvious. Here, no clear reasoning has been provided of why one of ordinary skill in the art would look to the structure of a gas filter when the structure for supporting a high pressure liquid cooling system of a nuclear power plant for filtering debris resulting from an incident is required. Accordingly, the addition of Rivers is solely based on a hindsight construction of the claims.

Kielbowicz and Rivers do not teach nor recite, *inter alia*, "said bent, elongate portion of perforated sheet metal spanning the distance between two consecutive intermediate walls or between one of the elongated lateral walls and an adjacent intermediate wall, with the screen pocket being open towards the suction side over said distance", as required by amended claim 1.

Conversely, Kielbowicz's suction sieve recites a cylindrical sieve body 1 is surrounded by a peripheral wall 3 having through holes 2 (col. 2, lines 24-26). Figs. 1 and 2 of Kielbowicz clearly show that the through holes 2 limit the inlet to the sieve pockets 14 and, thus, the sieve pockets are *not* open towards the suction side over the distance between the wall sections 11 and 12.

This claim limitation is an important modification because the applicant has found that, depending on the size distribution of the debris, the through holes 2 in Kielbowicz's suction sieve tend to clog before the sieve pockets lying behind the through holes are filled up. Thus, Kielbowicz's suction sieve has the disadvantage that the large area provided by the sieve pockets can only be used partially. In Kielbowicz's suction sieve the peripheral wall 3 surrounding the cylindrical sieve body 1 was provided for ensuring the mechanical strength of the suction sieve and for protecting the sieve pockets and the sieve body from debris falling down into the sump of the containment in case of an incident.

None of the cited references give a hint that the peripheral wall shown in Kielbowicz tends to clog or that the mechanical strength of the protective screen can be

maintained without such a peripheral wall. It is to be noted that the filter assemblies shown in Rivers (US 4,049,406) include a peripheral wall 11 towards the suction side.

In the Office Action issued on July 6, 2009 the previous Examiner recited (last sentence on page 11, continued on page 12):

It is obvious for ordinary skill in the art at the time the invention was made that a cylindrical filter as shown in FIG. 1, 2, 3 of '398 is transformable to a flat filter similar to the Rivers cassette with conservation of said filter function (i.e. with predictable result).

Applicant does not agree with this statement.

"Transforming" the cylindrical suction sieve disclosed by Kielbowicz into a protective screen which includes at least one screen wall element built up of one or more modular cassette units having rectangular sides results in a new construction and a different product. When the applicant conceived the invention, it was not known whether a screen wall element built up of one or more modular cassette units having rectangular sides would fulfill the specifications for the mechanical strength and whether the new protective screen would be economically feasible. In addition, it was not known whether a flat screen wall element without a peripheral wall would be able to fulfill the specifications for the mechanical strength. ***Neither Kielbowicz nor Rivers give an answer to these questions.***

The filter housing and assembly disclosed by Rivers is part of an air conditioning system, and the specification of an air conditioning component and the conditions under which an air conditioning component is operated are different from the specification of a protective screen for screening off a suction space and a suction duct connected to it, in an emergency cooling system of a nuclear power plant and from the conditions under which during an incident the protective screen is operated in the sump of a containment. In particular, the protective screen must be able to withstand debris falling down into the sump, while an air conditioning component is not exposed to debris falling down from the top of the containment. Rivers therefore does ***not disclose*** information which would have made the result predictable.

The result, i.e. that the claimed structure fulfills the specifications for the mechanical strength without a peripheral wall and that the new protective screen is economically feasible, was therefore *unexpected*.

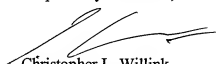
In view of at least the above, claim 1, and all claims dependent therefrom, is patentable over Kielbowicz and Rivers.

CONCLUSION

In view of the foregoing, applicant believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 576-0200.

Respectfully submitted,



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